Livestock Guardian Dogs and Their Care in Winter

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Factsheet

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Livestock guardian dogs (LGDs) are dogs that are purpose-bred for living with the flocks they guard, to reduce predation. For hundreds of years, these rugged animals have lived outside with sheep, year round, withstanding harsh elements. They use the same shelter as the sheep and get extra feed in winter. As a result, LGDs do not require a doghouse but may require some extra care when guarding the ewe flock in winter. Keeping them with the sheep provides the livestock with protection against wolves, coyotes and other dogs.

LIFE OF A LIVESTOCK GUARDIAN DOG

An LGD is bonded to the flock it lives with and should want to stay with the ewes. Shepherds say the dog thinks it is a sheep. Researchers believe the LGD is treating the sheep as if they were other dogs, and the sheep are treating the dogs as if they were other sheep. The flock of sheep and dogs together respond to each other's feeding behaviour and alarm signals. Behaviour born of centuries of selection for certain traits means LGDs are less likely to kill a sheep and are predisposed to follow their flock.

A livestock guardian dog works a 24-hour day, alert to intruders. Often the dog's mere presence in the area or simply a strong bark will derail a predator's plans for the sheep. Breeds used as livestock guardians, including Great Pyrenees, Maremma, Komondor and Akbash, possess the ability to act independently of shepherds while working to protect the sheep. These dogs are hardy animals and even during severe weather may choose to not enter shelter such as a doghouse or barn. They prefer to sleep where they have a full view of their surroundings and the sheep. Pasture studies found that generally, at night, the dogs stayed within about 200 m of the food, water and bed grounds of the dogs and flock. According to Lorna and Raymond Coppinger, pioneers of LGD research, the behaviour of a successful LGD includes the "absence of the stalking, chasing instinct and a curious mixture of juvenile, maternal and courtship behaviour directed toward the sheep."

CHARACTERISTICS OF LIVESTOCK GUARDIAN DOGS

LGDs are expected to be attentive to the animals they guard. A successful LGD must be:

- trustworthy — They will not endanger the sheep they are charged to protect.
- attentive — LGDs stay with the flock and do not roam away.
- protective toward the sheep

According to a U.S. Department of Agriculture (USDA) Factsheet, shepherds benefit from owning an LGD by:

- not losing sheep to predators
- reducing labour by not having to pen sheep nightly to avoid predation
- being alerted to disturbances in the flock or on the farm
- making more efficient use of pastures and potential expansion of the flock
- not finding their flock ravaged by domestic dogs, a very traumatic experience for a shepherd

HANDLING COLD, WIND AND RAIN

Professors Ray and Lorna Coppinger studied 1,000 LGDs for over 10 years and ran the *Livestock Dog Project*. According to Ray Coppinger, whether dogs can sleep outside depends on the weight of the dog. Large dogs have less trouble handling the cold of our winters than the heat of our summers. Dogs are poor at radiating heat but good at conserving their heat. Sheep may require access to shelter, such as barns or stands of bush, during winter rain storms. In contrast, LGD breeds generally have a long, flat,

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weather-resistant outer coat that sheds water, and a thick, "downy" undercoat for warmth. Rough-coated, undercoated, short-eared dogs can withstand lower temperatures than smooth-coated, greyhound-shaped dogs. However, according to Prof. Coppinger, it is body mass that really determines cold resistance in dogs. At about -32°C, medium-sized dogs (under 32 kg) start to take action against the cold by shivering or increasing their metabolic rate (burning energy to produce heat). Larger dogs, such as LGDs that weigh around 45 kg, can withstand even lower temperatures before reacting to the cold.

Doghouses have been placed in summer pastures by Western U.S. open range ranchers (pasturing sheep in areas where there are no fences) to provide a home site and feeding station for the dogs. They place a salt lick on the back of the doghouse to attract the sheep to this area so the doghouse becomes a socializing point for the sheep and dogs, helping reduce roaming.

Respondents to the Ontario LGD survey conducted through the Large Flock Operators (LFO) working group in 2003 commented that their older dogs would seek shelter from the cold rain. Others stated their dogs would sleep outside the pole barns, while the sheep slept inside. Of the LFOs surveyed, those that supplied a doghouse for their LGDs stated that the dogs never used the doghouse, and that they always slept outside.

SHELTER

Full-fleeced ewes that are healthy and properly fed can spend the winter outside without access to a barn. Sheep and LGDs require a windbreak for very cold, windy days. A windbreak may take the form of a bush that can be around the outside of the field to block the wind or in the field, allowing sheep to enter it for shelter. Wooden windbreak fences looking like tall snow fences, or made of partially porous windbreak "cloth," can provide adequate wind shelter for sheep and the dog.

Sheep will also use each other as shelter from the wind. When a sheep on the windy side becomes cold, it moves and works itself into the centre of the flock. LGDs will do the same, burrowing into the centre of the flock if they want to get out of the wind. LGDs will lay in the fence row of a field, using the shrubs and snow banks for shelter. Dogs have been seen lying on top of the round bales of hay in a feeder. If large round bales are unrolled for feeding, the dogs will lie on the hay.

FEEDING

According to the LGD owners survey, shepherds increased the amount of feed offered to the dogs during extremely cold weather and/or increased the fat/energy content of the feed during the winter months. Some sheep producers have self-feeders available for the dogs, allowing the dog to decide if and when it requires more feed. Since these dogs often choose to stay outdoors in all weather conditions, their metabolic action may increase in response to severe weather, causing them to need more feed. One dog food manufacturer suggests that dogs need about 7.5% more feed for every 5.5°C drop in temperature, once the temperature reaches the point were the LGD is shivering or trying to avoid the cold.

When coyotes are pressuring a flock and "working" the LGDs, the dogs often lose some weight. Some shepherds change dog feed to a higher energy feed during these times of the year. The National Research Council reported in *Nutrient Requirements of Dogs* that "Requirements for work and adverse environmental conditions make a . . . systematic schedule for meeting such diverse requirements impractical. Thus, it is recommended to feed to thrifty body condition . . . reliable sign of uncomplicated energy deficiency is generalized loss of bodyweight." In other words, a dog losing weight needs more feed or a higher energy feed.

Especially during harsh weather, check the body condition of your LGDs. Some shepherds check daily, some formally score the dogs' body condition several times each year. To do this, place both thumbs on the dog's backbone and run the fingers along the rib cage. You should be able to feel the dog's ribs — an LGD should not be fat. If you cannot easily feel the bony part of each rib, the dog may be overweight. When viewed from above, looking down on to the dog's back, a clearly defined waist should be visible behind the ribs. From the side, the abdomen should appear tucked up.

WORKING LIFESPAN

The longevity of working dogs is dependent upon their life span and whether they show the appropriate guarding behaviour. The *Livestock Dog Project* run by the Coppingers found that 11% of dogs culled were inattentive to livestock and 57% had injured or killed livestock. The longer a dog stays on the farm, the more cost-effective it will be for the shepherd. The purchase price, training costs and ineffective juvenile months will be amortized over a much longer time period.

Lorenz and colleagues (1986) reported that "Untrustworthy dogs often exhibited a high frequency of play behaviour and were often noted to be overfed and overweight. This disposition for 'extra' play may be reflective of a diet too high in calories."

CONCLUSION

Livestock guardian dogs are adaptive and can make changes to their routine as conditions change. In Ontario, LGDs are not tethered and can make their own choices and changes to their microclimate as the need arises. Using the same shelter as the sheep it protects, a properly fed, well-conditioned LGD does not require a traditional doghouse.

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